

FORM PTO-1449				Page 1 of 1			
<div style="border: 1px solid black; border-radius: 50%; width: 100px; height: 100px; display: flex; align-items: center; justify-content: center; margin: 0 auto;"> <div style="text-align: center;"> O I P T JUL 28 2004 PATENT OFFICE </div> </div>		ATTY. DOCKET NO. 1821.0070004/EJH/T-M		APPLICATION NO. 09/987,456			
		FIRST NAMED INVENTOR Zauderer et al.					
THIRD SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT		FILING DATE November 14, 2001		ART UNIT 1639			
U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
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	AL						Yes
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	AN						Yes
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	AO						Yes
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	AP						Yes
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OTHER (Including Author, Title, Date, Pertinent Pages, etc.)							
	AR						
	AS	35	Boder, E.T., et al., "Directed evolution of antibody fragments with monovalent femtomolar antigen-binding affinity," <i>Proc. Natl. Acad. Sci. USA</i> 97:10701-10705, National Academy of Sciences (September 2000)				
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EXAMINER					DATE CONSIDERED		
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FORM PTO-1449

FIRST SUPPLEMENTAL INFORMATION DISCLOSURE
STATEMENTATTY. DOCKET NO.
1821.0070004/EKS/EJH/TACAPPLICATION NO.
09/987,456APPLICANT
Zauderer et al.FILING DATE
November 14, 2001GROUP
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U.S. PATENT DOCUMENTS

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FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION
	AL						Yes No
JL	AM8	WO 93/01296	01/21/1993	WIPO			Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

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	APPLICANT Zauderer et al.	
	FILING DATE 11/14/2001	GROUP 1653

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
JE	AA1	4,603,112	07/29/1986	Paoletti, E. et al.	435	235	12/08/1982
	AB1	4,642,334	02/10/1987	Moore, K.W. et al.	530	388	12/05/1983
	AC1	4,656,134	04/07/1987	Ringold, G.M.	435	91	04/12/1985
	AD1	4,769,330	09/06/1988	Paoletti, E. et al.	435	172.3	12/24/1981
	AE1	4,800,159	01/24/1989	Mullis, K.B. et al.	435	172.3	12/17/1986
	AF1	4,816,397	03/28/1989	Boss, M.A. et al.	435	68	03/23/1984
	AG1	4,889,818	12/26/1989	Gelfand, D.H. et al.	435	194	06/17/1987
	AH1	4,946,786	08/07/1990	Tabor, S. et al.	435	194	03/01/1990
	AI1	4,965,188	10/23/1990	Mullis, K.B. et al.	435	6	06/17/1987
	AJ1	5,023,171	06/11/1991	Ho, S.N. et al.	435	6	08/10/1989
	AK1	5,110,587	05/05/1992	Paoletti, E. et al.	424	89	06/14/1990

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION
JE	AL1	EP 0120694 A2	10/03/1984	Europe			Yes No
	AM1	EP 0120694 B1	10/03/1984	Europe			Yes No
	AN1	GB 2137631 A	10/10/1984	Great Britain			Yes No
	AO1	EP 0171496 A2	02/19/1986	Europe			Yes No
	AP1	WO 86/01533 A1	03/13/1986	WIPO			Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

JE	AR	1	Barbas III, C.F. et al., "Assembly of combinatorial antibody libraries on phage surfaces: The gene III site," <i>Proc. Natl. Acad. Sci. USA</i> 88:7978-7982, National Academy Press (1991)
	AS	1	Belyavsky, A. et al., "PCR-based cDNA library construction: general cDNA libraries at the level of a few cells," <i>Nucleic Acids Res.</i> 17:2919-2932, Oxford University Press (1989)
	AT	1	Better, M. et al., "Escherichia coli Secretion of an Active Chimeric Antibody Fragment," <i>Science</i> 240:1041-1043, American Association for the Advancement of Science (1988)

EXAMINER	DATE CONSIDERED 3/12/01
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U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
<i>JE</i>	AA2	5,445,953	08/29/1995	Dorner, F. et al.	435	172.3	08/26/1991
	AB2	5,576,195	11/19/1996	Robinson, R.R. et al.	435	69.8	12/09/1994
	AC2	5,693,493	12/02/1997	Robinson, R.R. et al.	435	69.1	05/25/1995
	AD2	5,759,808	06/02/1998	Casterman, C. et al.	435	69.1	06/06/1995
	AE2	5,770,212	06/23/1998	Falkner, F-G. et al.	424	199.1	02/21/1997
	AF2	5,800,988	09/01/1998	Casterman, C. et al.	435	69.6	06/06/1995
	AG2	5,972,597	10/26/1999	Paoletti, E. et al.	435	5	05/13/1995
	AH2	6,005,079	12/21/1999	Casterman, C. et al.	530	387.1	06/06/1995
	AI2	6,291,158 B1	09/18/2001	Winter, G.P. et al.	435	6	08/21/1992
	AJ2	6,291,159 B1	09/18/2001	Winter, G.P. et al.	435	6	08/21/1992
<i>JE</i>	AK2	6,291,160 B1	09/18/2001	Lerner, R.A. et al.	435	6	11/25/1992

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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION
<i>JE</i>	AL2	EP 0200362 A2	12/10/1986	Europe			Yes No
	AM2	EP 0201184 B1	12/17/1986	Europe			Yes No
	AN2	WO 87/02671 A1	05/07/1987	WIPO			Yes No
	AO2	AU 606,320	05/19/1987	Australia			Yes No
<i>JE</i>	AP2	EP 0239400 A2	09/30/1987	Europe			Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

<i>JE</i>	AR	2	Brüggemann, M. et al., "Construction, Function and Immunogenicity of Recombinant Monoclonal Antibodies," <i>Behring Inst. Mitt.</i> 87:21-24, Medizinische Verlagsges MbH (1990)
	AS	2	Burton, D.R. et al., "A large array of human monoclonal antibodies to type 1 human immunodeficiency virus from combinatorial libraries of asymptomatic seropositive individuals," <i>Proc. Natl. Acad. Sci. USA</i> 88:10134-10137, National Academy Press (1991)
	AT	2	Chames, P. and Baty, D., "Antibody engineering and its applications in tumor targeting and intracellular immunization," <i>FEMS Microbiol. Lett.</i> 189:1-8, Elsevier Science Publishers B.V. (August 2000)

EXAMINER <i>JE</i>	DATE CONSIDERED <i>2/12/07</i>
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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
JZ	AA3	6,291,161 B1	09/18/2001	Lerner, R.A. et al.	435	6	09/04/1992
JZ	AB3	6,331,415 B1	12/18/2001	Cabilly, S. et al.	435	69.6	06/10/1988
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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION
JZ	AL3	EP 0239400 B1	09/30/1987	Europe			Yes No
	AM3	GB 2188638 A	10/07/1987	Great Britain			Yes No
	AN3	JP 63-152984	06/25/1988	Japan			Yes No
	AO3	WO 88/06630 A1	09/07/1988	WIPO			Yes No
	AP3	AU 632,462	03/01/1989	Australia			Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

JZ	AR	3	Chang, C.N. et al., "Expression of Antibody Fab Domains on Bacteriophage Surfaces. Potential Use for Antibody Selection," <i>J. Immunol.</i> 147:3610-3614, American Association of Immunologists (1991)
	AS	3	Chiang, Y.L. et al., "Direct cDNA Cloning of the Rearranged Immunoglobulin Variable Region," <i>Biotechniques</i> 7:360-366, Eaton Publishing Company (1989)
	AT	3	Clackson, T. et al., "Making antibody fragments using phage display libraries," <i>Nature</i> 352:624-628, Macmillan Magazines, Ltd. (1991)

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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION
JE	AL4	WO 89/00999 A1	02/09/1989	WIPO			Yes No
	AM4	WO 89/01526 A1	02/23/1989	WIPO			Yes No
	AN4	EP 0368684 A1	05/16/1990	Europe			Yes No
	AO4	EP 0371998 B2	06/13/1990	Europe			Yes No
	AP4	WO 90/14430 A1	11/29/1990	WIPO			Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

JE	AR	4	Cottet, S. and Corthésy, B. "Cellular processing limits the heterologous expression of secretory component in mammalian cells," <i>Eur. J. Biochem.</i> 246:23-31, Blackwell Science, Ltd. (1997)
	AS	4	Davies, J. and Riechmann L., "'Camelising' human antibody fragments: NMR studies on VH domains," <i>FEBS Lett.</i> 339:285-290, Elsevier Science Publishers B.V. (1994)
	AT	4	Davies, J. and Riechmann, L., "Antibody VH Domains as Small Recognition Units," <i>Bio/technology (N Y)</i> 13:475-479, Nature America, Inc. (1995)

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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION
JF	AL5	WO 90/14424 A1	11/29/1990	WIPO			Yes No
	AM5	WO 90/14443 A1	11/29/1990	WIPO			Yes No
	AN5	TW 171452	10/21/1991	Taiwan			Yes No
	AO5	WO 92/20791 A1	11/26/1992	WIPO			Yes No
	AP5	WO 94/25591 A1	11/10/1994	WIPO			Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

JF	AR	<u>5</u>	Davies, J. and Riechmann, L., "Single antibody domains as small recognition units: design and <i>in vitro</i> antigen selection of camelized, human VH domains with improved protein stability," <i>Protein Eng.</i> 9:531-537, Oxford University Press (1996)
	AS	<u>5</u>	Eckert, D. and Merchlinsky, M., "Vaccinia virus-bacteriophage T7 expression vector for complementation analysis of late gene processes," <i>J. Gen. Virol.</i> 80:1463-1469, Society for General Microbiology (June 1999)
	AT	<u>5</u>	Elroy-Stein O. et al., "Cap-independent translation of mRNA conferred by encephalomyocarditis virus 5' sequence improves the performance of the vaccinia virus/bacteriophage T7 hybrid expression system," <i>Proc. Natl. Acad. Sci. USA</i> 86:6126-6130, National Academy Press (1989)

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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION
JR	AL6	WO 96/34103 A1	10/31/1996	WIPO			Yes No
	AM6	WO 97/08320 A1	03/06/1997	WIPO			Yes No
	AN6	WO 99/37681 A2	07/29/1999	WIPO			Yes No
	AO6	WO 99/46300 A1	09/16/1999	WIPO			Yes No
	AP6	JP 2991720	10/15/1999	Japan			Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

JR	AR	6	Elroy-Stein, O. and Moss, B., "Cytoplasmic expression system based on constitutive synthesis of bacteriophage T7 RNA polymerase in mammalian cells," <i>Proc. Natl. Acad. Sci. USA</i> 87:6743-6747 (1990)
	AS	6	Fenner, F., "Genetic Studies with Mammalian Poxviruses," <i>Virology</i> 8:499-507, Academic Press, Inc. (1959)
	AT	6	Fields, S. and Song, O-k., "A novel genetic system to detect protein-protein interactions," <i>Nature</i> 340:245-246, Macmillan Magazines, Ltd. (1989)

EXAMINER <i>Ja L</i>	DATE CONSIDERED <i>2/12/02</i>
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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION
DE	AL7	WO 00/28016 A1	05/18/2000	WIPO			Yes No
	AM7	WO 00/43507 A1	07/27/2000	WIPO			Yes No
	AN7	WO 00/69907 A1	11/23/2000	WIPO			Yes No
	AO7	WO 01/18058 A2	03/15/2001	WIPO			Yes No
	AP7	CA 1,341,235	05/22/2001	Canada			Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

DE	AR	1	Foote, J. and Winter, G., "Antibody Framework Residues Affecting the Conformation of the Hypervariable Loops," <i>J. Mol. Biol.</i> 224:487-499, Academic Press, Ltd. (1992)
	AS	1	Frischauf, A., "Construction and Characterization of a Genomic Library in λ ," <i>Methods Enzymol.</i> 152:190-199, Academic Press, Inc. (1987)
	AT	1	Fuerst, T.R. et al., "Use of a Hybrid Vaccinia Virus-T7 RNA Polymerase System for Expression of Target Genes," <i>Mol. Cell. Biol.</i> 7:2538-2544, American Society for Microbiology (1987)

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JR	AL8	WO 01/72995	10/04/2001	WIPO			Yes No
	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

JR	AR	8	Galfre, G. and Milstein, C., "Preparation of Monoclonal Antibodies: Strategies and Procedures," <i>Methods Enzymol.</i> 73:3-47, Academic Press, Inc. (1981)
↓	AS	8	Glockshuber, R. et al., "The Disulfide Bonds in Antibody Variable Domains: Effects on Stability, Folding in Vitro, and Functional Expression in <i>Escherichia coli</i> ," <i>Biochemistry</i> 31:1270-1279, American Chemical Society (1992)
↓	AT	8	Gossen, M. et al., "Transcriptional Activation by Tetracyclines in Mammalian Cells," <i>Science</i> 268:1766-1769, American Association for the Advancement of Science (1995)

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	AN						Yes No
	AO						Yes No
	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

JB	AR	9	Griffiths, G.M. and Milstein, C., "The Analysis of Structural Diversity in the Antibody Response," in <i>Hybridoma Technology in the Biosciences and Medicine</i> , Springer, T.A., ed., Plenum Press, New York, NY, pp.103-115 (1985)
	AS	9	Güssow, D. et al., "Generating Binding Activities from <i>Escherichia coli</i> by Expression of a Repertoire of Immunoglobulin Variable Domains," <i>Cold Spring Harb. Symp. Quant. Biol.</i> 6:265-272, Cold Spring Harbor Laboratory Press (1989)
	AT	9	Hamers-Casterman, C. et al., "Naturally occurring antibodies devoid of light chains," <i>Nature</i> 363:446-448, Macmillan Magazines, Ltd. (1993)

EXAMINER	DATE CONSIDERED 8/6/01
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	AO						Yes No
	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

JE	AR	10	Himly, M. et al., "Defective Vaccinia Virus as a Biologically Safe Tool for the Overproduction of Recombinant Human Secretory Proteins," <i>Protein Expr. Purif.</i> 14:317-326, Academic Press, Inc. (1998)
	AS	10	Hirata, Y. et al., "Molecular Structure of a Gene, <i>VMA1</i> , Encoding the Catalytic Subunit of H ⁺ -Translocating Adenosine Triphosphatase from Vacuolar Membranes of <i>Saccharomyces cerevisiae</i> ," <i>J. Biol. Chem.</i> 265:6726-6733, American Society for Biochemistry and Molecular Biology, Inc. (1990)
	AT	10	Hogrefe, H.H. et al., "A bacteriophage lambda vector for the cloning and expression of immunoglobulin Fab fragments on the surface of filamentous phage," <i>Gene</i> 128:119-126, Elsevier Science Publishers B.V. (1993)

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	AP						Yes No

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JK	AR	11	Holzer, G.W. et al., "Construction of a Vaccinia Virus Deficient in the Essential DNA Repair Enzyme Uracil DNA Glycosylase by a Complementing Cell Line," J. Virol. 71:4997-5002, American Society for Microbiology (1997)
J	AS	11	Hoogenboom, H.R. et al., "Multi-subunit proteins on the surface of filamentous phage: methodologies for displaying antibody (Fab) heavy and light chains," Nucleic Acids Res. 19:4133-4137, Oxford University Press (1991)
J	AT	11	Huse, W.D. et al., "Generation of a Large Combinatorial Library of the Immunoglobulin Repertoire in Phage Lambda," Science 246:1275-1281, American Association for the Advancement of Science (1989)

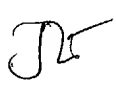


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	AO						Yes No
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OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
	AR	<u>12</u>	Huse, W., "Combinatorial Antibody Expression Libraries in Filamentous Phage," in <i>Antibody Engineering: A Practical Guide</i> , Borrebaeck, C.A.K., ed., W.H. Freeman and Company, New York, NY, pp.103-120 (1992).
	AS	<u>12</u>	Huston, J.S. et al., "Protein Enigeering of Single-Chain Fv Analogs and Fusion Proteins," <i>Methods Enzymol.</i> 203:46-88, Academic Press, Inc. (1991)
	AT	<u>12</u>	Huston, J.S. et al., "Protein engineering of antibody binding sites: Recovery of specific activity in an anti-digoxin single-chain Fv analogue produced in <i>Escherichia coli</i> ," <i>Proc. Natl. Acad. Sci. USA</i> 85:5879-5883, National Academy Press (1988)

EXAMINER 	DATE CONSIDERED 
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	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
JR	AR	13	Iverson, S.A. et al., "A Combinatorial System for Cloning and Expressing the Catalytic Antibody Repertoire in <i>Escherichia coli</i> ," <i>Cold Spring Harb. Symp. Quant. Biol.</i> 54:273-281, Cold Spring Harbor Laboratory Press, (1989)
J	AS	13	Jespers, L.S. et al., "Guiding the Selection of Human Antibodies from Phage Display Repertoires to a Single Epitope of an Antigen," <i>Bio/technology (N Y)</i> 12:899-903, Nature America, Inc. (1994)
J	AT	13	Kang, A.S. et al., "Linkage of recognition and replication functions by assembling combinatorial antibody Fab libraries along phage surfaces," <i>Proc. Natl. Acad. Sci. USA</i> 88:4363-4366, National Academy Press (1991)

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JZ	AR	14	Kang, A.S. et al. "Antibody redesign by chain shuffling from random combinatorial immunoglobulin libraries," <i>Proc. Natl. Acad. Sci. USA</i> 88:11120-11123, National Academy Press (1991)
f	AS	14	Kearney, J.F. et al., "A new mouse myeloma cell line that has lost immunoglobulin expression but permits the construction of antibody-secreting hybrid cell lines," <i>J. Immunol.</i> 123:1548-1550, The Williams & Wilkens Co. (1979)
	AT	14	Kitamura, T. et al., "Efficient screening of retroviral cDNA expression libraries," <i>Proc. Natl. Acad. Sci. USA</i> 92:9146-9150, National Academy Press (1995)

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	AR	<u>15</u>	Kitamura, T., "New experimental approaches in retrovirus-mediated expression screening," <i>Int. J. Hematol.</i> 67:351-359, Elsevier Science Ireland, Ltd. (1998)
	AS	<u>15</u>	Larrick, J.W. et al., "Rapid cloning of rearranged immunoglobulin genes from human hybridoma cells using mixed primers and the polymerase chain reaction," <i>Biochem. Biophys. Res. Commun.</i> 160:1250-1256, Academic Press, Inc. (1989)
	AT	<u>15</u>	Larrick, J.W. et al., "Generation of specific human monoclonal antibodies by in vitro expansion of human B cells: A novel recombinant DNA approach," in <i>In Vitro Immunization in Hybridoma Technology</i> , Borrebaeck, C.A.K., ed., Elsevier Science Publishers B.V., Amsterdam, Netherlands, pp.231-246 (1988)

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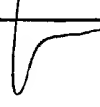
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OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	<u>16</u>	Lee, C.C. et al., "Generation of cDNA Probes Directed by Amino Acid Sequence: Cloning of Urate Oxidase," <i>Science</i> 239:1288-1291, American Association for the Advancement of Science (1988)
	AS	<u>16</u>	Loh, E.Y. et al., "Polymerase Chain Reaction with Single-Sided Specificity: Analysis of T Cell Receptor δ Chain," <i>Science</i> 243:217-220, American Association for the Advancement of Science (1989)
	AT	<u>16</u>	Mack, D.H. et al., "A sensitive method for the identification of uncharacterized viruses related to known virus groups: Hepadnavirus model system," <i>Proc. Natl. Acad. Sci. USA</i> 85:6977-6981, National Academy Press (1988)

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OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

JE	AR	17	Mahon, G.M. and Whitehead, I.P., "Retrovirus cDNA Expression Library Screening for Oncogenes," <i>Methods Enzymol.</i> 332:211-221, Academic Press, Inc. (February 2001)
J	AS	17	Marks, J.D. et al., "By-passing Immunization. Human Antibodies from V-gene Libraries Displayed on Phage," <i>J. Mol. Biol.</i> 222:581-597, Academic Press, Inc. (1991)
J	AT	17	Marks, J.D. et al., "Oligonucleotide primers for polymerase chain reaction amplification of human immunoglobulin variable genes and design of family-specific oligonucleotide probes," <i>Eur. J. Immunol.</i> 21:985-991, VCH Verlagsgesellschaft mbH, (1991)

EXAMINER <i>JE</i>	DATE CONSIDERED <i>3/2/02</i>
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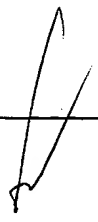

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	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	<u>18</u>	Martin, F. et al., "Affinity selection of a camelized VH domain antibody inhibitor of hepatitis C virus NS3 protease," <i>Protein Eng.</i> 10:607-614, Oxford University Press (1997)
	AS	<u>18</u>	Marx, J., "Learning How to Bottle the Immune System," <i>Science</i> 246:1250-1251, American Association for the Advancement of Science (1989)
	AT	<u>18</u>	McCafferty, J. et al., "Phage antibodies: filamentous phage displaying antibody variable domains," <i>Nature</i> 348:552-554, Macmillan Magazines, Ltd. (1990)

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	AN						Yes No
	AO						Yes No
	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
JK	AR	19	Merchlinsky, M. and Moss, B., "Introduction of Foreign DNA into the Vaccinia Virus Genome by <i>in Vitro</i> Ligation: Recombination-Independent Selectable Cloning Vectors," <i>Virology</i> 190:522-526, Academic Press, Inc. (1992)
J	AS	19	Merchlinsky, M. et al., "Construction and Characterization of Vaccinia Direct Ligation Vectors," <i>Virology</i> 238:444-451, Academic Press, Inc. (1997)
J	AT	19	Misawa, K. et al., "A method to identify cDNAs based on localization of green fluorescent protein fusion products," <i>Proc. Natl. Acad. Sci. USA</i> 97:3062-3066, National Academy Press (March 2000)

EXAMINER	DATE CONSIDERED 8/16/01
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	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	<u>20</u>	Moore, G.P. et al., "Genetically Engineered Antibodies," Clin. Chem. 35:1849-1853, American Association of Clinical Chemistry (1989)
	AS	<u>20</u>	Morrison, S.L. et al., "Transfectomas Provide Novel Chimeric Antibodies," Science 229:1202-1207, American Association for the Advancement of Science (1985)
	AT	<u>20</u>	Moss, B., "Vaccinia Virus: A Tool for Research and Vaccine Development," Science 252:1662-1667, American Association for the Advancement of Science (1991)

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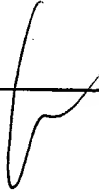
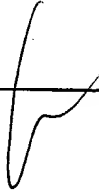
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	AO						Yes No
	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	<u>21</u>	Mullinax, R.L. et al., "Identification of human antibody fragment clones specific for tetanus toxoid in a bacteriophage λ immunoexpression library," <i>Proc. Natl. Acad. Sci. USA</i> 87:8095-8099, National Academy Press (1990)
	AS	<u>21</u>	Muyldermans, S. et al., "Recognition of antigens by single-domain antibody fragments: the superfluous luxury of paired domains," <i>Trends Biochem. Sci.</i> 26:230-235, Elsevier Science, Ltd. (April 2001)
	AT	<u>21</u>	Neuberger, M.S., "Expression and regulation of immunoglobulin heavy chain gene transfected into lymphoid cells," <i>EMBO J.</i> 2:1373-1378, Oxford University Press (1983)

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JLE	AR	22	Neuberger, M.S., "Making novel antibodies by expressing transfected immunoglobulin genes," <i>Trends Biochem. Sci.</i> 10:347-349, Elsevier Science Publishers B.V. (1985)
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↓	AT	22	Ohara, O. et al., "One-sided polymerase chain reaction: The amplification of cDNA," <i>Proc. Natl. Acad. Sci. USA</i> 86:5673-5677, National Academy Press (1989)




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	AR	<u>23</u>	Oi, V.T. et al., "Immunoglobulin gene expression in transformed lymphoid cells," <i>Proc. Natl. Acad. Sci. USA</i> 80:825-829, National Academy Press (1983)
	AS	<u>23</u>	Onishi, M. et al., "Applications of retrovirus-mediated expression cloning," <i>Exp. Hematol.</i> 24:324-329, Elsevier Science, Inc. (1996)
	AT	<u>23</u>	Orlandi, R. et al., "Cloning immunoglobulin variable domains for expression by the polymerase chain reaction," <i>Proc. Natl. Acad. Sci. USA</i> 86:3833-3837, National Academy Press (1989)


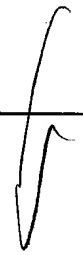

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	AR	<u>24</u>	Pfleiderer, M. et al., "A novel vaccinia virus expression system allowing construction of recombinants without the need for selection markers, plasmids and bacterial hosts," <i>J. Gen. Virol.</i> 76:2957-2962, Society for General Microbiology (1995)
	AS	<u>24</u>	Potter, H. et al., "Enhancer-dependent expression of human x immunoglobulin genes introduced into mouse pre-B lymphocytes by electroporation," <i>Proc. Natl. Acad. Sci. USA</i> 81:7161-7165, National Academy Press (1984)
	AT	<u>24</u>	Proba, K. et al., "A Natural Antibody Missing a Cysteine in V _H : Consequences for Thermodynamic Stability and Folding," <i>J. Mol. Biol.</i> 265:161-172, Academic Press, Ltd. (1997)

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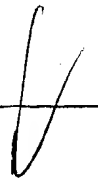

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
JE	AR	25	Proba, K. et al., "Antibody scFv Fragments Without Disulfide Bonds Made by Molecular Evolution," <i>J. Mol. Biol.</i> 275:245-253, Academic Press, Ltd. (1998)
J	AS	25	Rader, C. et al., "A phage display approach for rapid antibody humanization: Designed combinatorial V gene libraries," <i>Proc. Natl. Acad. Sci. USA</i> 95:8910-8915, National Academy Press (1998)
J	AT	25	Rathbun, G. et al., "Making antigen-receptor genes," <i>Nature</i> 342:863-864, Macmillan Magazines, Ltd. (1989)
EXAMINER		DATE CONSIDERED	
		11/16/01	



EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

FORM PTO-1449 <u>INFORMATION DISCLOSURE STATEMENT</u>		ATTY. DOCKET NO. 1821.0070004		APPLICATION NO. 09/987,456	
		APPLICANT Zauderer et al.			
		FILING DATE 11/14/2001		GROUP 1653	

U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
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FOREIGN PATENT DOCUMENTS							
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	AL						Yes No
	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
	AR	26	Reichmann, L. et al., "Reshaping human antibodies for therapy," <i>Nature</i> 332:323-327, Macmillan Magazines, Ltd. (1988)
	AS	26	Reichmann, L., "Rearrangement of the Former VL Interface in the Solution Structure of a Camelised, Single Antibody VH Domain," <i>J. Mol. Biol.</i> 259:957-969, Academic Press, Ltd. (1996)
	AT	26	Reichmann, L. and Muyldermans, S., "Single domain antibodies: comparison of camel VH and camelised human VH domains," <i>J. Immunol. Methods</i> 231:25-38, Elsevier Science Publishers B.V. (December 1999)




EXAMINER 	DATE CONSIDERED 
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FORM PTO-1449 INFORMATION DISCLOSURE STATEMENT	ATTY. DOCKET NO. 1821.0070004	APPLICATION NO. 09/987,456
	APPLICANT Zauderer et al.	
	FILING DATE 11/14/2001	GROUP 1653

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	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
	AR	27	Roth, M.E. et al., "Selection of Variable-Joining Region Combinations in the α Chain of the T Cell Receptor," <i>Science</i> 241:1354-1358, American Association For the Advancement of Science (1988)
	AS	27	Saiki, R.K. et al., "Primer-Directed Enzymatic Amplification of DNA with a Thermostable DNA Polymerase," <i>Science</i> 239:487-491, American Association for the Advancement of Science (1988)
	AT	27	Sastry, L. et al., "Cloning of the immunological repertoire in <i>Escherichia coli</i> for generation of monoclonal catalytic antibodies: Construction of a heavy chain variable region-specific cDNA library," <i>Proc. Natl. Acad. Sci. USA</i> 86:5728-5732, National Academy Press (1989)

EXAMINER 	DATE CONSIDERED 
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FORM PTO-1449
INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO.
 1821.0070004

APPLICATION NO.
 09/987,456

APPLICANT
 Zauderer et al.

FILING DATE
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GROUP
 1653

U.S. PATENT DOCUMENTS

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	AM						Yes No
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	AO						Yes No
	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

JS	AR	28	Scharf, S.J. et al., "Direct Cloning and Sequence Analysis of Enzymatically Amplified Genomic Sequences," <i>Science</i> 233:1076-1078, American Association for the Advancement of Science (1986)
	AS	28	Scheifflinger, F. et al., "Construction of chimeric vaccinia viruses by molecular cloning and packaging," <i>Proc. Natl. Acad. Sci. USA</i> 89:9977-9981, National Academy Press (1992)
	AT	28	Skerra, A. and Plückthun, A., "Assembly of a Functional Immunoglobulin F ₁ Fragment in <i>Escherichia coli</i> ," <i>Science</i> 240:1038-1041, American Association for the Advancement of Science (1988)

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	APPLICANT Zauderer et al.	
	FILING DATE 11/14/2001	GROUP 1653


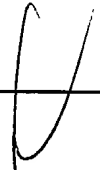
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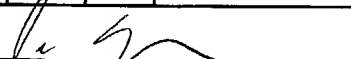
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	AO						Yes No
	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	<u>29</u>	Sommer, R. and Tautz, D., "Minimal homology requirements for PCR primers," <i>Nucleic Acids Res.</i> 17:6749, Oxford University Press (1989)
	AS	<u>29</u>	Songsivilai, S. et al., "Cloning and sequencing of human λ immunoglobulin genes by the polymerase chain reaction," <i>Eur. J. Immunol.</i> 20:2661-2666, VCH Verlagsgesellschaft mbH (1990)
	AT	<u>29</u>	Sorge, J. et al., "Amphotropic Retrovirus Vector System for Human Cell Gene Transfer," <i>Mol. Cell. Biol.</i> 4:1730-1737, American Society for Microbiology (1984)


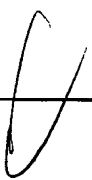
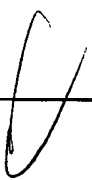
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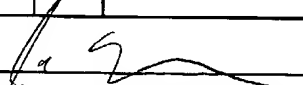
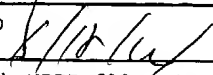
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		APPLICANT Zauderer et al.			
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	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
	AR	30	Transue, T.R. et al., "Camel Single-Domain Antibody Inhibits Enzyme by Mimicking Carbohydrate Substrate," <i>Proteins</i> 32:515-522, John Wiley & Sons, Inc. (1998)
	AS	30	Verhoeven, M. and Riechmann, L., "Engineering of Antibodies," <i>BioEssays</i> 8:74-78, Company of Biologists, Ltd. (1988)
	AT	30	Ward, E.S. et al., "Binding activities of a repertoire of single immunoglobulin variable domains secreted from <i>Escherichia coli</i> ," <i>Nature</i> 341:544-546, Macmillan Magazines, Ltd. (1989)

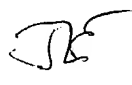
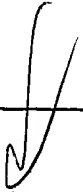

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FORM PTO-1449 <u>INFORMATION DISCLOSURE STATEMENT</u>	ATTY. DOCKET NO. 1821.0070004	APPLICATION NO. 09/987,456
	APPLICANT Zauderer et al.	
	FILING DATE 11/14/2001	GROUP 1653

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FOREIGN PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
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	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
	AR	<u>31</u>	Whitehead, I. et al., "Expression Cloning of Oncogenes by Retroviral Transfer of cDNA Libraries," <i>Mol. Cell. Biol.</i> 15:704-710, American Society for Microbiology (1995)
	AS	<u>31</u>	Winter, G. and Milstein, C., "Man-made antibodies," <i>Nature</i> 349:293-299, Macmillan Magazines, Ltd. (1991)
	AT	<u>31</u>	Wong, B.Y. et al., "High-Efficiency Identification of Genes by Functional Analysis from a Retroviral cDNA Expression Library," <i>J. Virol.</i> 68:5523-5531, American Society for Microbiology (1994)

EXAMINER 	DATE CONSIDERED 
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	APPLICANT Zauderer et al.	
	FILING DATE 11/14/2001	GROUP 1653

U.S. PATENT DOCUMENTS

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FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION
	AL						Yes No
	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

JE	AR	32	Zebedee, S.L. et al., "Human combinatorial antibody libraries to hepatitis B surface antigen," <i>Proc. Natl. Acad. Sci. USA</i> 89:3175-3179, National Academy Press (1992)
L	AS	32	Dialog File 351, Accession No. 7582945, Derwent WPI English language abstract for JP 63-152984.
	AT	32	Dialog File 351, Accession No. 7796032, Derwent WPI English language abstract for JP2991720.

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
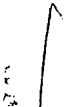

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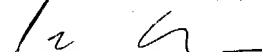

FORM PTO-1449 INFORMATION DISCLOSURE STATEMENT	ATTY. DOCKET NO. 1821.0070004	APPLICATION NO. 09/987,456
	APPLICANT Zauderer et al.	
	FILING DATE 11/14/2001	GROUP 1653

U.S. PATENT DOCUMENTS							
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	AL						Yes No
	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	33	Co-pending U.S. Application No. 09/822,250, Zauderer, M., filed April 2, 2001.
	AS	33	Co-pending U.S. Application No. 10/052,942, Zauderer, M. et al., filed January 23, 2002.
	AT	33	Co-pending U.S. Application No. 10/061,395, Zauderer, M. et al., filed February 4, 2002.

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FORM PTO-1449 SECOND SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT	ATTY. DOCKET NO. 1821.0070004/EKS/EJH/T-M	APPLICATION NO. 09/987,456
	APPLICANT Zauderer et al.	
	FILING DATE November 14, 2001	GROUP 1627

U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA						
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JLE	AC3	5,830,721	11/03/1998	Stemmer et al.			03/04/1996
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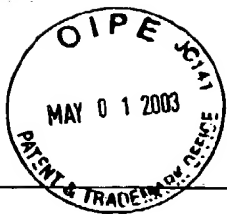
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	AM						Yes No
JLE	AN8	WO 99/30151 A1	06/17/1999	WIPO			Yes No
	AO						Yes No
	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

JLE	AR	34	Griffiths, A.D., et al., "Isolation of high affinity human antibodies directly from large synthetic repertoires," EMBO J. 13:3245-3260, Oxford University Press (1994).
	AS	34	Smith, E.S., et al., "Lethality-based selection of recombinant genes in mammalian cells: Application to identifying tumor antigens," Nat. Med. 7:967-972, Nature Publishing Company (August 2001).
	AT	34	Waterhouse, P., et al., "Combinatorial infection and in vivo recombination: a strategy for making large phage antibody repertoires," Nucl. Acids Res. 21:2265-2266, Oxford University Press (1993).

EXAMINER	DATE CONSIDERED
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SECOND SUPPLEMENTAL
INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO.
1821.0070004/EKS/EJH/T-M

APPLICATION NO.
09/987,456

APPLICANT
Zauderer et al.

FILING DATE
November 14, 2001

GROUP
1627

U.S. PATENT DOCUMENTS

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	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	35	International Search Report for International Patent Application No. PCT/US)1/43076, mailed April 1, 2003.
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